



## RTV5242, RTV 5243, RTV5249

### **RTV5240 Series** **Neutral Cure, One Component RTV Adhesive Sealants**

#### **Product Description**

RTV5240 series sealants are alkoxy neutral cure, one-component, ready to use, electronic grade silicone adhesive sealants exhibiting high strength that will maintain a strong bond even when exposed to moist environments. RTV5240 series sealant are true neutral curing silicone sealants that release methyl alcohol during cure while exposed to atmospheric moisture at room temperature. Unlike most alkoxy curing silicone sealants, RTV5240 series cures very rapidly.

#### **Key Performance Properties**

- A non-corrosive curing process that does not produce exothermic heat or corrosive by-products can be used on corrosion-sensitive electrical and electronic equipment with no adverse effect
- Fast green strength build, fast cure (approximately 4x faster than traditional alkoxy sealants)
- Low odour cure by-product
- Tough and resilient sealant with primerless adhesion to most metals, painted surfaces and plastics
- UL recognized component, File number E-36952
- Superior hydrolytic stability. The RTV5240 series has demonstrated that it is able to maintain adhesion to many substrates after 20 weeks immersion in 60°C water
- Excellent electrical insulation properties
- Withstands exposure to harsh environments such as chemical, ozone, moisture and weathering
- Compatible with sensitive metals and plastics
- Good tear resistance
- Easy handling with no mixing, heating or solvent hazards
- Retains elastomeric properties at temperatures of -60 to 200°C

#### **Applications**

The RTV5240 series are recommended for use in aerospace, automotive, appliance and other industries which incorporate electronic components or sensitive metal or plastic substrates into a finished product. Electronic and integrated circuits, semi conductors, and copper connections are typical applications. These products are also suitable for use in moist environments.

The products in this series have fast green strength development and a cure time faster than many two-part sealants. Since they are one-part products, there is no mixing required, and they can be easily dispensed from a simple bulk dispensing pump or cartridges. Base/catalyst ratio control, static mixer maintenance, butterfly testing for mix uniformity, yield loss from base purging, and other activities/costs associated with two-part sealants are eliminated.

#### **Typical Product Data**

Colour	
RTV5242	White
RTV5243	Black
RTV5249	Grey

PROPERTY	VALUE
<b>Typical Cured Properties</b>	
Hardness, Shore A	40
Tensile Strength, MPa	2.2
Elongation, %	425
<b>Typical Uncured Properties</b>	
Specific Gravity, g/cm <sup>3</sup>	1.5
Application Rate, g/min	300
Sag/Slump, mm	2.5
Tack Free Time, min.	45
Tooling or Skin-over time, min	10
Cure time to depth of 3.2mm	6 hours
<b><sup>1</sup> Typical Electrical Properties</b>	
Dielectric Strength kV/mm	20
Dielectric Constant @ 60 Hz	2.8
Dissipation Factor @ 60 Hz	0.001
Volume Resistivity, ohm.cm	3x10 <sup>15</sup>

<sup>1</sup> Information is provided for Customer convenience. These properties are not tested on a routine basis.

#### Specifications

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting GE Bayer Silicones Technical Service RTV1 and RTV2.

#### Instructions for Use

##### SURFACE PREPARATION

Primers are not typically required when using RTV5240 series sealants. This silicone series offers excellent adhesion to many substrates including most sensitive metals, painted surfaces and plastics. Primers are available for difficult to bond to substrates. SS4179 primer is recommended for most plastics and painted surfaces, and SS4004P and SS4044P are recommended for most metal substrates. Adhesion to all substrates should be periodically verified by the user during actual production. GE Bayer Silicones will conduct adhesion tests on submitted substrates upon request.

Where adhesion is required, surfaces should be thoroughly cleaned with a suitable solvent such as naphtha, methyl ethyl ketone (MEK), or isopropyl alcohol (IPA) to remove dirt, oil and grease. The surface should be wiped dry before the solvent evaporates to effectively remove the contaminants. Porous surfaces should be allowed to completely dry before sealant application.

##### CURE CYCLE TIME

The cure process begins with the formation of a skin on the exposed surface of the sealant and progresses inward through the material. At 22°C and 50% relative humidity, the RTV5240 series sealants will form a surface skin which is tack free to the touch in approximately 45 minutes. The RTV5240 series sealants typically may be tooled up to 10 minutes after application. A 3mm section will cure in approximately 6 hours. Full development of physical properties and adhesion of a 3mm section will take approximately 24 hours. Always allow the maximum possible cure time available for best results.

Since cure times progressively increase with the thickness, sealant depth should be limited to 6mm where possible. For applications requiring sealant thicknesses greater than 1/4 inch, GE Bayer Silicones one component, addition cure or two component silicone rubber compounds are suggested.

Higher temperatures and humidity will accelerate the cure process and lower temperatures and humidity will slow the cure process. Do not cure the sealant at or above 43°C as bubbles may form in the sealant that may effect the overall physical properties and adhesion.

#### APPLICATION INSTRUCTIONS

Refer to, and follow the written instructions on the container and Material Safety Data Sheets.

Use drop cloths to protect horizontal surfaces from excess sealant that may drop during tooling operations.

Apply the sealant directly from the pail/drum using bulk dispensing equipment, or from caulking cartridges. Consult GE Bayer Silicones regarding suggested pumping equipment and procedures.

Apply sealant by pushing the bead ahead of the nozzle and make sure that the entire cavity is filled. Air pockets or voids should always be avoided.

Tooling may be accomplished with a dry putty knife or spatula made from stainless steel, aluminum, polyethylene, Teflon® or other suitably non-reactive materials. Tooling should be done neatly, forcing the sealant into contact with the sides of the groove to eliminate any internal voids and assure good surface contact. Do not tool with water or soap or detergent solutions. The use of water, soap, and/or detergent solutions often leads to surface contamination during application. Surface contamination is the leading cause of poor adhesion.

#### CLEAN UP AND REMOVAL

Un-cured sealant may be removed by scraping up the bulk of the material and following with successive wiping with soft, dry rags or paper towels. Removal of sealant from fabrics and other absorbent materials is essentially impossible once the material has begun to skin over.

Complete removal of wet sealant is also difficult but may be facilitated by repeated applications of various commercially available hand cleaners suitable for grease removal, followed by blotting with dry towels or rags. Test fabric in an inconspicuous location for appearance changes prior to using any cleaning agent. Read and follow use and warning instructions for cleaning agents prior to use.

#### Handling and Safety

Material Safety Data Sheets are available upon request from GE BAYER SILICONES. Similar information for solvents and other chemicals used with the GE Bayer products should be obtained from your supplier. When solvents are used, proper safety precautions must be observed.

#### Storage and Warranty Period

The warranted shelf life will be indicated by the 'use before date' on the associated documents with a minimum of 4 months when stored in the original unopened containers below 25° C.

#### Availability

RTV5242/5243/5249 is available in 245 kg drums, 27.2 kg pails and 300 ml cartridges.

#### LEGAL DISCLAIMER

THE MATERIALS, PRODUCTS AND SERVICES OF GE SILICONES, GE BAYER SILICONES, GE TOSHIBA SILICONES, THEIR SUBSIDIARIES OR AFFILIATES (THE "SUPPLIER"), ARE SOLD SUBJECT TO THE SUPPLIER'S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN APPLICABLE SALES AGREEMENTS, PRINTED ON THE BACK OF ACKNOWLEDGMENTS AND INVOICES, OR AVAILABLE UPON REQUEST. ALTHOUGH THE INFORMATION, RECOMMENDATIONS OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (I) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (II) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SUPPLIER'S MATERIALS, PRODUCTS, SERVICES, RECOMMENDATIONS OR ADVICE. NOTHING IN THIS OR ANY OTHER DOCUMENT SHALL ALTER, VARY, SUPERSEDE OR OPERATE AS A WAIVER OF ANY OF THE SUPPLIER'S STANDARD CONDITIONS OF SALE.

Each user bears the full responsibility for making its own determination as to the suitability of Supplier's materials, products, services, recommendations or advice for its own particular purpose. Each user must identify and perform tests and analyses sufficient to assure it that its finished parts will be safe and suitable for use under end-use conditions. Because actual use of products by the user is beyond the control of Supplier, such use is within the exclusive responsibility of the user, and Supplier cannot be held responsible for any loss incurred through incorrect or faulty use of the products. Further, no statement contained herein concerning a possible or suggested use of any material, product, service or design is intended or should be construed to grant any license under any patent or other intellectual property right of Supplier or any of its subsidiaries or affiliated companies, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.